

What You Need to Know About Drought & Drought Response



Water Supply Planning Program

Governor Kaine's Release

November 7, 2007:

- The Governor urged localities to update water conservation and drought contingency ordinances and plans and begin preparations to implement those plans.
- The Governor also encouraged citizens and businesses to strictly follow all calls for water conservation issued by public waterworks or local governments.

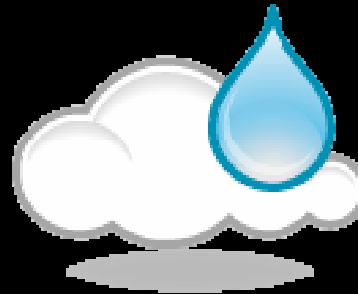


The drought is not over yet!

...no matter what you might have
read in the newspaper...

Indicators Used by Drought Monitoring Task Force

- Streamflows
- Ground water levels
- Precipitation deficits
- Reservoir levels



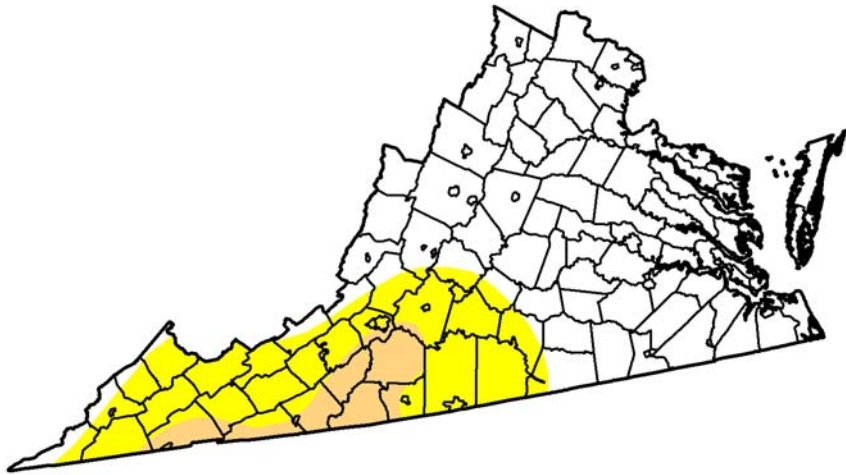
Other Drought Indicators

- Evaluates drought products from outside agencies:
 - USGS Flow duration curves
 - NOAA drought monitor
 - NOAA Palmer Index

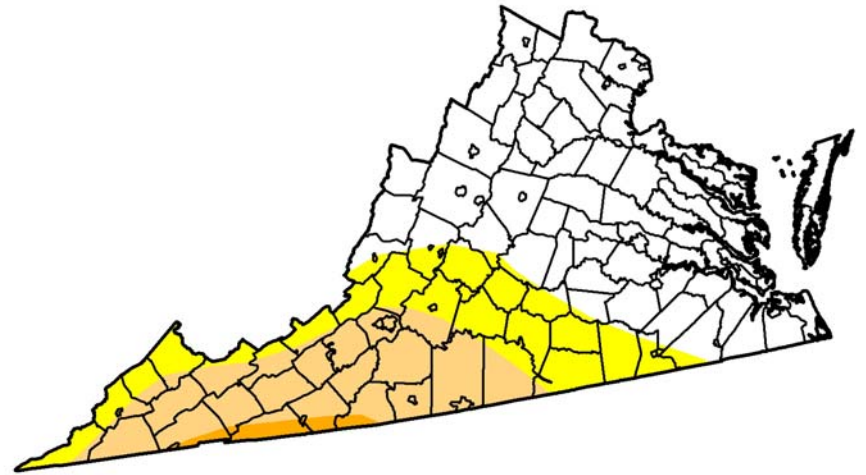
Statewide Conditions

- Conditions are very similar to 2001/2002:
 - Low winter stream flows
 - Limited winter ground water recharge
 - Wet spring
- The 6-10 day and 8-14 day outlooks both call for below normal precipitation in broad areas of the Commonwealth. Drought conditions will likely intensify in the next couple of weeks.
- It is likely that agricultural drought impacts may occur in early to late July without additional precipitation.

Current Statewide Conditions



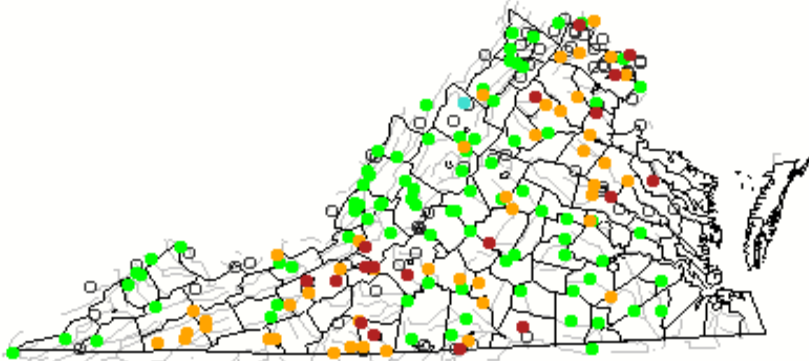
June 3, 2008



June 10, 2008

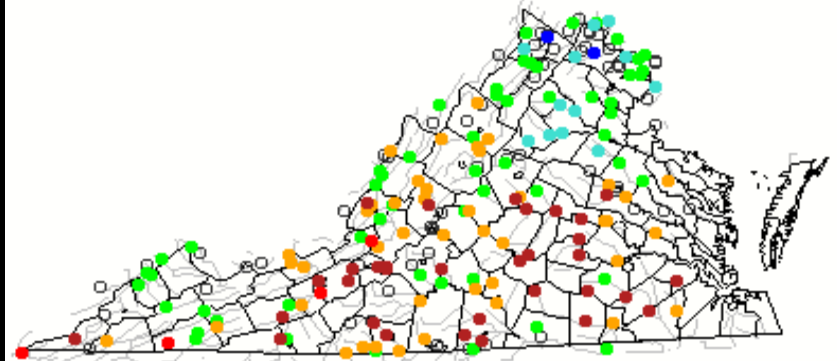
Current Streamflows

Monday, April 14, 2008 09:30ET



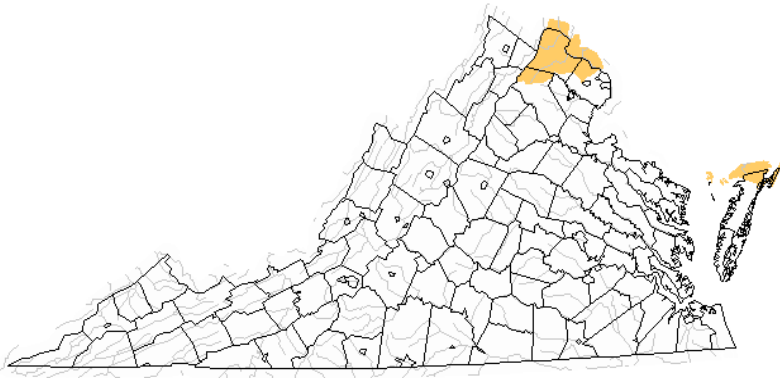
USGS

Sunday, June 15, 2008 14:30ET



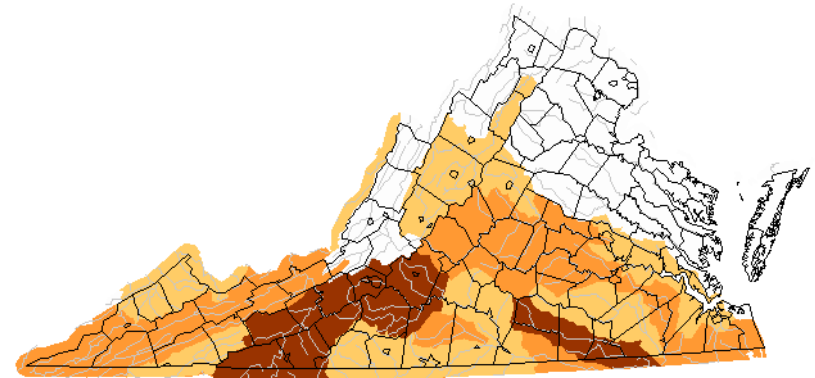
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Sunday, April 13, 2008



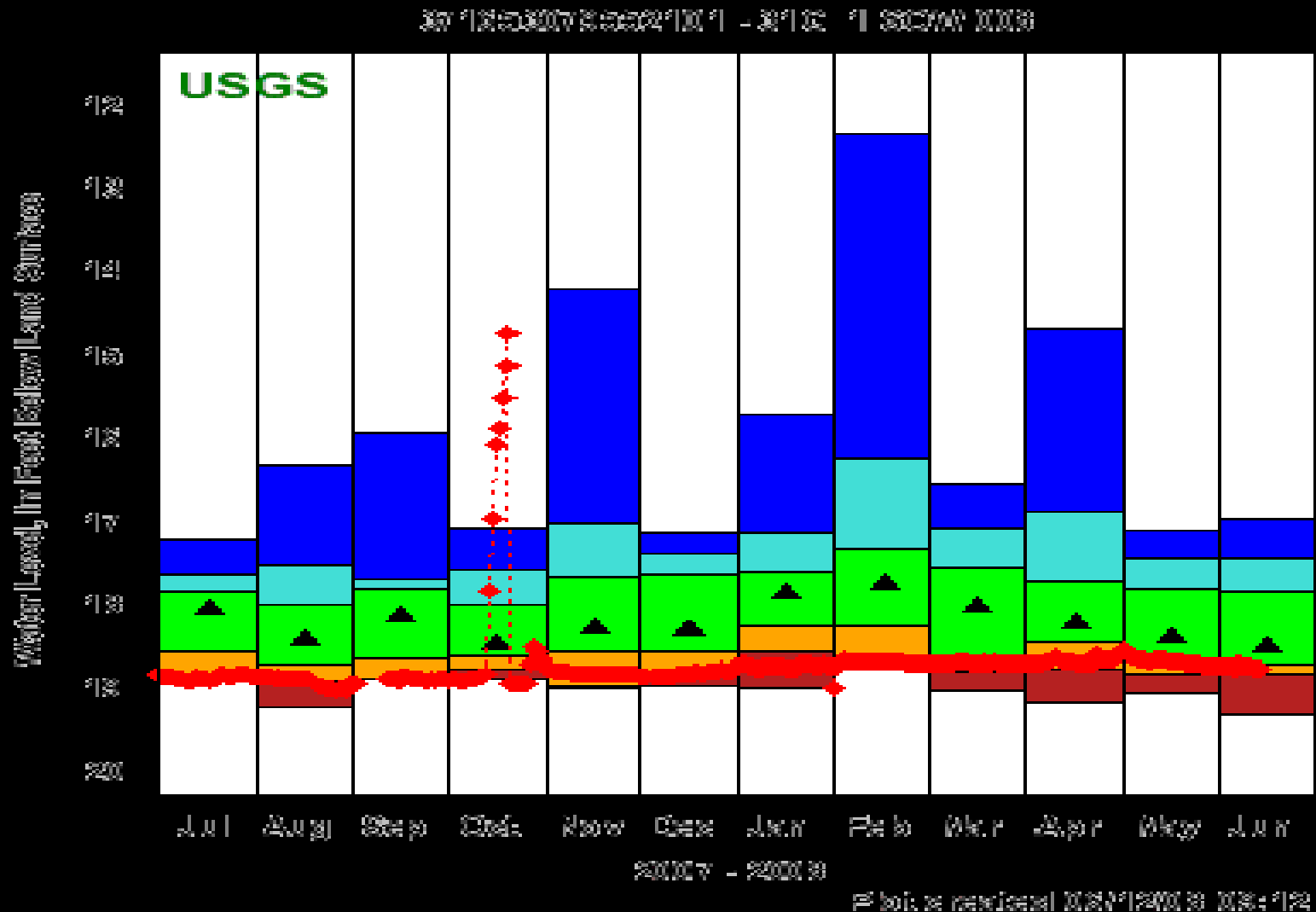
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Saturday, June 14, 2008



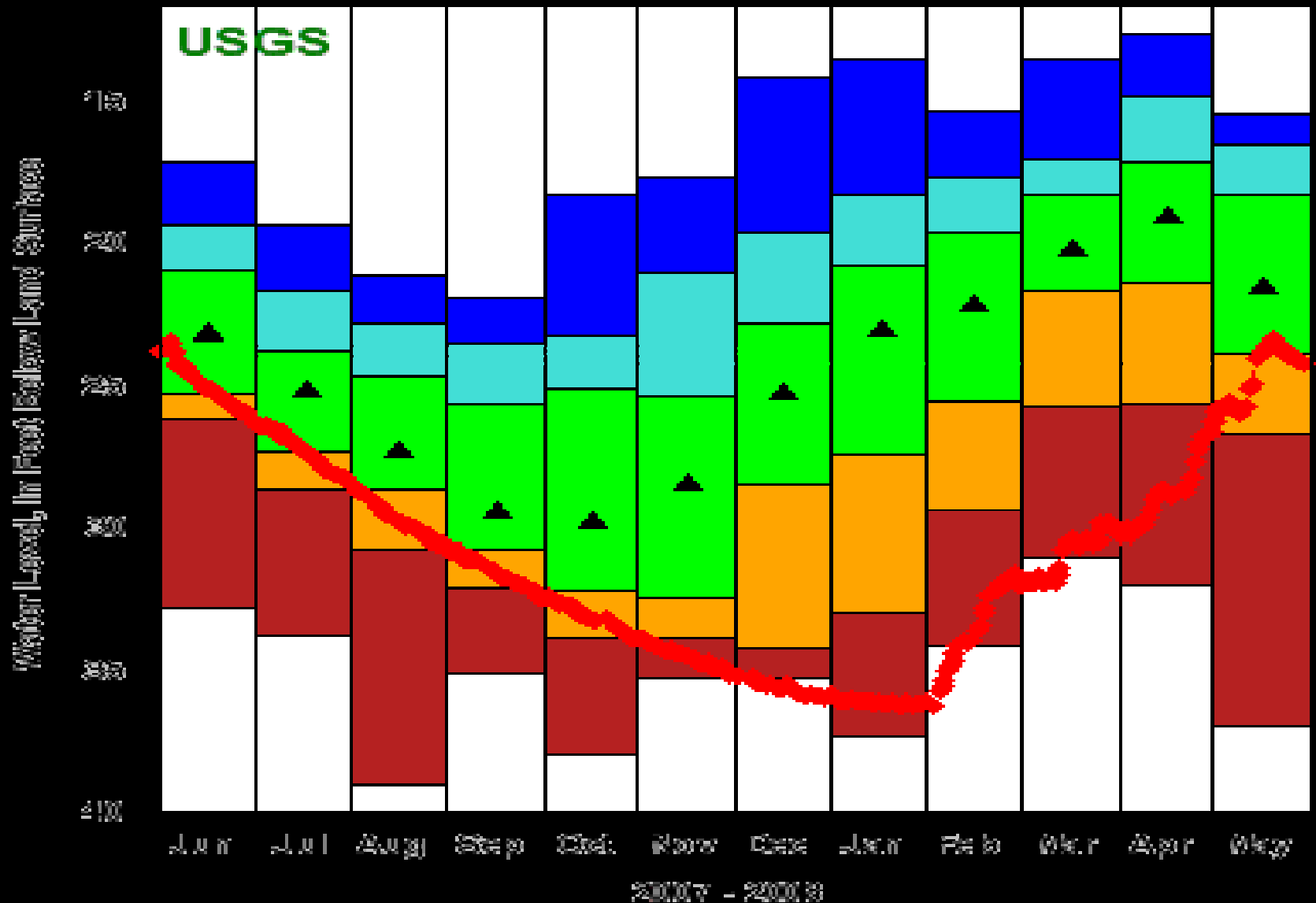
USGS

Current Ground Water Levels



Current Ground Water Levels

3800 3700 3600 3500 3400 3300 3200 3100 3000 2900 2800 2700 2600 2500 2400 2300 2200 2100 2000 1900 1800 1700 1600 1500 1400 1300 1200 1100 1000 900 800 700 600 500 400 300 200 100 0



Plot of monthly (2007-2008) 241-554

Current Reservoir Levels

- Levels of most large reservoirs have continued to rebound over the last month and are now full.
- Smith Mountain Lake is dropping.



State and Local Roles in Drought Response

State

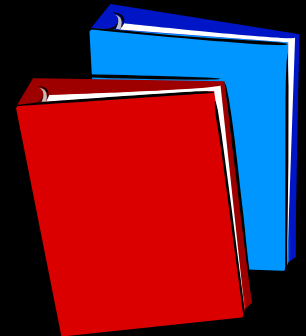
- Monitor and assess the onset of drought conditions and recommend restrictions
- Declare an emergency when warranted and implement rationing when warranted
- Provide resources when emergency conditions warrant

Local

- Provide adequate water to local citizens
- Reduce water use by citizens to sustain supply during adverse climatic conditions
- Develop local drought response program customized to local source, economic and social conditions

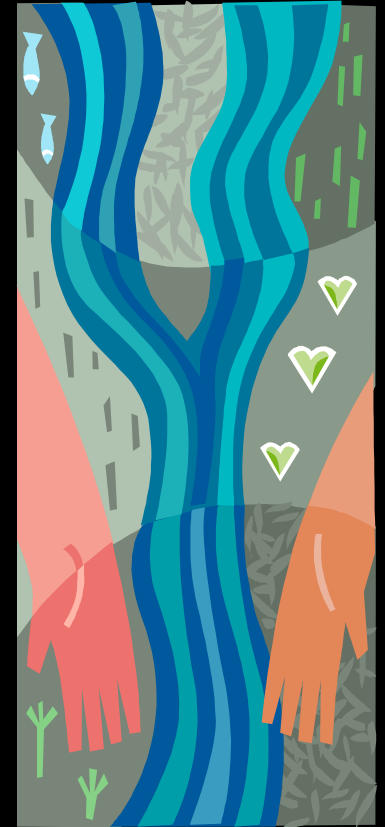
The Water Supply Planning Regulation states:

“A program that includes community water systems and self-supplied users who withdraw more than an average of 300,000 gallons per month of surface water and ground water **shall** contain drought response and contingency plans. “



Drought Response & Contingency Plans

“...shall be structured to address the **unique characteristics of the water source** that is being utilized and the nature of **the beneficial use of water.**”



Drought Response & Contingency Plans

“...shall contain, at a minimum, the following **three graduated stages** of responses to the onset of drought conditions:”



Drought Response & Contingency Plans

Drought Response Stages

Drought Watch

- Drought conditions are likely
- Increase public awareness & outreach
- *GOAL*: prepare public for potential drought conditions & necessary response



Drought Response & Contingency Plan:

Drought Response Stages

Drought Warning

- Significant drought is imminent
- Voluntary water conservation measures
- *GOAL*: reduce water use by 5 – 10%



Drought Response & Contingency Plan:

Drought Response Stages

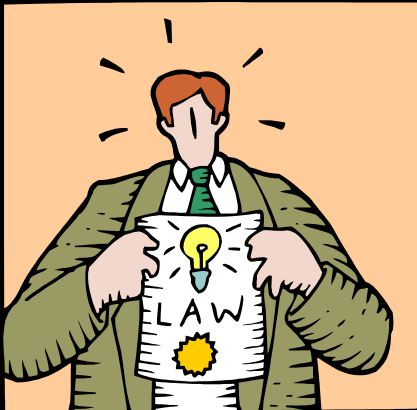
Drought Emergency

- Significant drought event is occurring
- Mandatory water conservation measures
- *GOAL*: reduce water use by 10 – 15%



Drought Response & Contingency Plans

“...shall include references to local ordinances, if adopted, and procedures for the implementation and enforcement of drought response and contingency plans.”



Authorities

- § 15.2-923. Local water-saving ordinances.
 - as shall be necessary to protect the public health, safety and welfare, any locality may by ordinance (i) require the installation of water conservation devices in the case of the retrofitting of buildings constructed prior to July 1, 1978, and (ii) restrict the nonessential use of ground water during declared water shortages or water emergencies.

Authorities

- § 15.2-924. Water supply emergency ordinances.
 - A. Whenever the governing body of any locality finds that a water supply emergency exists or is reasonably likely to occur if water conservation measures are not taken, it may adopt an ordinance restricting the use of water by the citizens of such locality for the duration of such emergency or for a period of time necessary to prevent the occurrence of a water supply emergency. However, such ordinance shall apply only to water supplied by a locality, authority, or company distributing water for a fee or charge. **Such ordinance may include appropriate penalties designed to prevent excessive use of water, including, but not limited to, a surcharge on excessive amounts used.**

Drought Response & Contingency Plan: **BUILDING YOUR PLAN**



Questions to consider:

- What are the unique characteristics & beneficial uses of your water source?
- What are your triggers for each drought stage?
- What are your public outreach and conservation activities at each drought stage?
- How will you implement your drought response & contingency plan?

Drought Management Planning

Water Source & Beneficial Use
§120.A.1

Assess

Select Stages

§120.A.2

Choose
Indicators

§120.A.2

Describe
Responses
§120.A.2

Implement

§120.A.3

Evaluate

§50 D, E

A Living Document!



Tips for Building Your Drought Plan

- Develop local triggers and response plan to address your sources
- Identify what water uses to restrict
- Establish a community advisory body to make recommendations regarding actions that should be taken and when
- Establish summer surcharge as appropriate
- Focus resources on public education

How DEQ Can Help You

- Help you develop local triggers and response plan as part of your required Water Supply Program
- Provide information clearinghouse for examples
- Complete and post real-time, local scale information that can be accessed on the WSP Website
- Continue to fund development and distribution of data and management tools

Drought Response Planning Resources

- Virginia Drought Monitoring Task Force
 - Monthly Drought Status Reports
 - <http://www.deq.virginia.gov/waterresources/drought.php#>
- Virginia Drought Assessment & Response Plan
 - <http://www.deq.state.va.us/export/sites/default/waterresources/pdf/droughtresponseplan.pdf>
- Example drought management ordinances & recommended ordinance components

Drought Management Summary

- Address unique water source characteristics & beneficial uses
- Designate drought onset response stages, triggers & conservation measures
- Local and regional drought response & contingency plans are living documents that promote localized, proactive drought management
- State resources and tools are available to help you with this process
- Public outreach is essential to effective management of our water resources during these critical periods

Questions

Scott Kudlas, Director
Office of Water Resources
(804) 698-4456

scott.kudlas@deq.virginia.gov



<http://www.deq.virginia.gov/watersupplyplanning/homepage.html>